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PREOPERATIVE LEFT ATRIAL DYSFUNCTION AND RISK OF POSTOPERATIVE ATRIAL FIBRILLATION (POAF) COMPLICATING THORACIC SURGERY

ACC Poster Contributions
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Authors: *Tina Raman, Nancy Roistacher, Jennifer Liu, Hao Zhang, Weiji Shi, Howard Thaler, David Amar, Memorial Sloan-Kettering Cancer Center, New York, NY*

Background: POAF complicating thoracic surgery increases morbidity and stroke risk. Data on whether preoperative atrial dysfunction or other echo markers predispose to POAF in this population are sparse.

Methods: In 191 patients who had major lung or esophageal resection over 1 yr, clinical and echo data were compared between patients that developed POAF and those that did not. Presence of POAF lasting >5 min was detected using continuous telemetry or 12-lead ECG. Maximal left atrial volume (LAV) and indices of LA function were assessed.

Results: POAF patients (32/191,17%): were older (70±5 vs. 65±12 yr., p<0.0001), had greater maximal LAV and decreased left atrial ejection fraction (LAEF) and lower E' and A' septal velocities compared with patients without POAF; the groups did not differ in left ventricular ejection fraction (Table). The incidence of POAF in patients with LAV≥34 ml/m2 (8/22, 36%) was greater than in those with LAV <34 ml/m2 (24/168, 14%), p=0.02). On multivariate analysis, lower LAEF (OR 1.04, 95% CI 1.01-1.07, p=0.02) and age >60 yr. (OR 11.4, 95% CI 1.48-87.72, p=0.02) were the only independent risk factors associated with POAF (area under ROC curve=0.72).

Conclusions: In patients undergoing noncardiac thoracic surgery these novel data show that in addition to older age, greater preoperative LA size, abnormal LA function and left ventricular diastolic dysfunction are associated with POAF and suggest that future POAF prevention strategies could target patients with these risk factors.

	POAF (n=32)	No POAF (n=159)	p-value
Left Atrial Volume, mL/m2	29.3 ± 9.9	25.5 ± 7.5	0.045
Left Atrial Ejection Fraction, %	51.4 ± 18.5	59.7 ± 11	0.03
E' septal velocity, cm/s	6.6 ± 1.4	7.6 ± 2.6	0.004
A' septal velocity, cm/s	7.8 ± 2.9	9.0 ± 2.4	0.02
E/A ratio	1.2 ± 0.8	1.0 ± 0.4	0.20
Left Ventricular Ejection Fraction, %	61.2 ± 12.6	65.0 ± 7.9	0.12